

Amendments to the Drawings:

There are no amendments to the drawings.

REMARKS/ARGUMENTS

Claims pending in this application are Claims 1-10. Per conversation with Examiner, Claim 1 has been amended to place the application in condition for allowance. Claim 2 has been amended. Request for reconsideration of Claims 4-10 which depend from Claim 1 are respectfully requested. Claims 43-45 have been withdrawn without prejudice. Accordingly, upon entry of these amendments, Claims 1-10 will be before the Examiner for consideration.

35 U.S.C. § 103(a) Rejection

1. The Examiner has rejected Claims 1-3 and 43-45 under 35 U.S.C. §103(a) as being unpatentable over Highsmith et al., (U.S. Pat. No. 6,362,331 B1 hereinafter referred to as the '331 reference) in view of Day et al., (U.S. Pat. No. 4,916,206 hereinafter referred to as the '206 reference) and Wood et al., (U.S. Pat. No. 6,074,581 hereinafter referred to as the '581 reference).

Per telephone conference with Examiner on May 17, 2004, Examiner and Applicants agreed that none of the references relied on in the above 103(a) rejection includes the polycaprolactone binder. Claim 2 included the limitation of the binder being polycaprolactone. Applicants have agreed to amend Claim 2 to delete "polycaprolactone" and added the word "further" to include the remaining binders. Claim 1 has been amended to include the allowable subject matter of Claim 2 by adding the limitation of the polycaprolactone binder. Furthermore, Claims 43-45 have been withdrawn without prejudice. Applicants respectfully request reconsideration of Claims 4-10 in light of newly amended Claim 1. The Applicants believe that the list of Claims 1-10 are in condition for allowance. As required for an amendment after final, a clean set of claims has been provided.

Informalities

Applicants respectfully request examiner to correct informalities discovered in Claims 2 and 3. In Claim 2, Applicants have changed "polyglycidal nitrate" to its correct spelling of "polyglycidyl nitrate" and changed "n-n-butyl-N-(2-nitroxyethyl)nitramino"

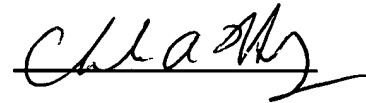
to its correct spelling of "n-butyl-N-(2-nitroxyethyl)nitramino" which was pointed out by Examiner in its later filed Divisional Application Serial No. 10/716,980. Applicants also found that in Claim 3 that "plasicizer" is spelled wrong and have amended Claim 3 to include the correct spelling, "plasticizer."

The Commissioner is authorized to charge any fees associated with filing of this response to Deposit Account No. 50-0931.

Applicants submit that all grounds for rejection of claims presented herein have been addressed and amended to place application in condition for allowance.

Applicants invite the Examiner to call the undersigned if clarification is needed on any aspect of this response, or if the examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully Submitted,



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Clean Set of Claims:

The listing of present claims in the application:

Listing of Claims:

1. A minimum signature solid propellant formulation comprising:
 - about 6.0 to about 9.0 weight % of at least one polymeric binder, wherein said binder includes polycaprolactone;
 - about 21 to about 25 weight % of at least one energetic plasticizer; and
 - about 55 to about 65 weight % of neat ammonium dinitramide having a particle size of about 20 μm to about 60 μm as a neat ADN oxidizer.
2. (currently amended) The solid propellant formulation of Claim 1, wherein said binder is further selected from the group consisting of poly(diethyleneglycol-4,8-dinitrazaundecanoate) and polyglycidyl nitrate.
3. The solid propellant formulation of Claim 1, wherein said plasticizer is selected from the group consisting of butanetriol trinitrate, trimethylolthane trinitrate, n-n-butyl-N-(2-nitroxyethyl)nitramine and any combination thereof.
4. The solid propellant formulation of Claims 1, further comprising at least one member selected from a curative, a stabilizer, a cure catalyst, crosslinker, a burn rate modifier and a bonding agent.
5. The solid propellant formulation of Claim 4, wherein said curative is selected from the group consisting of hexamethylene diisocyanate, m-tetramethylxylene diisocyanate, dimeryl diisocyanate, toluene diisocyanate, polymeric hexamethylene diisocyanate, isophorone diisocyanate, biuret triisocyanate and any combination thereof.
6. The solid propellant formulation of Claim 4, wherein said cure catalyst is selected from the group consisting of triphenyl bismuth triphenyltin chloride, dibutyltin diacetate and dibutyltin dilaurate.

7. The solid propellant formulation of Claim 4, wherein said stabilizer is selected from the group consisting of N-methyl-p-nitroaniline and 2-NDPA (2-nitrodiphenylamine).
8. The solid propellant formulation of Claim 4, wherein said burn rate modifier is carbon black.
9. The solid propellant formulation of Claim 4, wherein said crosslinker is nitrocellulose.
10. The solid propellant formulation of Claim 1, wherein said solid propellant further comprises at one member selected from ammonium dinitramide prills and CL-20.